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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/516,537 | 12/02/2004 | Kazunori Inogai | L8638.04105 | 4466 |

7590 10/23/2006
Stevens Dais Miller & Mosher
1615 L Street N W
Suite 850
Washington, DC 20036

EXAMINER

HU, RUI MENG

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2618

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/516,537 | INOgai, KAZUNORI | |
| | Examiner | Art Unit | |
| | RuiMeng Hu | 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/02/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/02/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/08/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of **claims 1-3** in the reply filed on 10/02/2006 is acknowledged. The traversal is on the grounds that contain searching and examining of all pending claims in the application would not be burdensome, more cost to the applicant, and inconvenience to the public during searching if issued in separate patents. This is not found persuasive because Groups I, II and III do not relate to a single general inventive concept since each group of invention operates in a different way with a different function to achieve a different outcome, and a diverse search and examination would have to be conducted for each group of invention.

The requirement is still deemed proper and is therefore made FINAL.

2. **Claims 4-5** are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/02/2006.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on 03/08/2005 has been considered by the examiner and made of record in the application file.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1-2** are rejected under 35 U.S.C. 102(b) as being anticipated by **Gurantz et al. (US Patent 5550869)**.

Consider **claim 1**, Gurantz et al. clearly disclose a receiver (figure 2, column 1 lines 5-15) comprising: an amplification (figure 2, variable gain amplifiers 23 and 25) means for amplifying a receiver signal based on an AGC signal (figure 2, AGC 64); a CORDIC means (figure 2, Digital Derotator 58, operating in accordance with a CORDIC function) for calculating a receiving amplitude of a known symbol which is a constant amplitude (column 6 lines 35-65); and a control means for generating the AGC signal based on the receiving amplitude calculated by the CORDIC means and applying the AGC signal to the amplification means (column 7 lines 34-36).

Consider **claim 2, as applied to claim 1 above**, Gurantz et al. clearly disclose the receiver further comprising a carrier frequency correction means for negating carrier frequency offset, wherein the CORDIC means detects the carrier frequency offset from a delay detection output of a receiving known symbol and a correlation output with the known symbol (column 3 line 52-67, column 4 lines 3-15, column 5 lines 4-7, column 12 lines 15-45, figure 6).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Background Art** admission by the applicant in view of **Philips et al. (US Patent 6307877)**.

Consider **claim 3**, the prior art admission by the applicant clearly discloses a receiver comprising: a means for detecting carrier frequency offset; a sine wave and a cosine wave are obtained from a sine, cosine table corresponding to the detected carrier frequency offset, and conducting frequency offset correction process (specification page 3 line 10 - page 4 line 18, figure 8).

However, the prior art admission by the applicant fails to teach a CORDIC means for generating sine and cosine waveforms.

In the same field of endeavor, Philips et al. clearly disclose a CORDIC means for generating sine and cosine waveforms (column 17 lines 39-43).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Philips et al. into the prior art admission by the applicant as to have a CORDIC to generate sine and cosine waveforms for reducing look-up-table size.

Conclusion

10. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed**

to: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RuiMeng Hu whose telephone number is 571-270-1105.

The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RuiMeng Hu
R.H./rh
October 12, 2006

EDAN ORGAD
PATENT EXAMINER/TELECOMM.

E. Orgad 10/12/06